SYMBOL	DESCRIPTION	SYMBOL	MBING SYMBOLS DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
TMBOL							
了	ANGLE VALVE		FIRE LINE	5LPC⊀	LOW PRESSURE CONDENSATE	\$\$MR\$	SNOW MELTING SYSTEM RETURN
BFP	BACKFLOW PREVENTER		FLANGE	→ LPS →	LOW PRESSURE STEAM SUPPLY	├──	STEAM TRAP
	BACK WATER VALVE	\vdash	FLOOR CLEAN OUT	MPC	MEDIUM PRESSURE CONDENSATE	ş—ST—-	STORM SEWER LINE (ABOVE GRADE)
— 	BALL VALVE	\line{\phi}	FLOOR DRAIN	→ MPS→	MEDIUM PRESSURE STEAM SUPPLY		STORM SEWER LINE (BELOW GRADE)
:	BASEBOARD RADIATION		FLOW MEASURING & BALANCING DEVICE	0	OVERFLOW RAIN WATER LEADER	} 	STRAINER
\bigcirc	BRASS UPRIGHT PENDENT TYPE SPRINKLER HEAD	←№	FLOW MEASURING & BALANCING DEVICE, WITH ISOLATION VALVE	(Ô)	OVERFLOW ROOF DRAIN	, ,	TEMPERATURE GAUGE
─ ₩ 	BUTTERFLY VALVE	⊱—F0S—	FUEL OIL SUPPLY		OXYGEN PIPING	TW	TEMPERED WATER
	CHECK VALVE W/DIRECTION INDICATED	ş—FOR—ş	FUEL OIL RETURN	→	PIPE ANCHOR	}	THREADED HOSE CONNECTION
CWS	CHILLED WATER SUPPLY	ş—FOV—ş	FUEL OIL VENT		PIPE GUIDES	→	TRIPLE DUTY VALVE, WITH COMBINATION SHUT-OFF, BALANCING, AND CHECK VALVE WITH MEASURING CONNECTIONS
CWR	CHILLED WATER RETURN	\leftarrow	GATE VALVE	· ====================================	PIPE CAP	├	UNION
\boxtimes	CHROME PLATTED RECESSED TYPE SPRINKLER HEAD	→	GLOBE VALVE	с	PIPE DOWN	VAC	VACUUM LINE
\bigcirc \vdash	CLEAN OUT	۶HPC۱	HIGH PRESSURE CONDENSATE	·	PIPE UP	⊱	VENT
——A——	COMPRESSED AIR LINE	⊱—HPS—→	HIGH PRESSURE STEAM SUPPLY	<i>⊶</i> [∓] <i>→</i>	PLUG VALVE		VERTICAL PENDENT TYPE WINDOM SPRINKLER HEAD
CD⊰	CONDENSATE DRAINAGE		WALL HYDRANT	, Ø	PRESSURE GAUGE		WATER HAMMER ARRESTOR
—cs—	CONDENSER WATER SUPPLY	→	HOSE BIBB		PRESSURE REDUCING VALVE WITH INLET AND OUTLET PRESSURE	H	WALL CLEAN OUT
CR\$	CONDENSER WATER RETURN	5HW\$	HOT WATER (120°) (ABOVE GRADE)	└───	QUICK CLOSING, FUSIBLE LINK VALVE		WATER METER
	CONNECT TO EXISTING	5HW	HOT WATER (120°) (BELOW GRADE)	0	RAIN WATER LEADER		
<u> </u>	CONTROL VALVE (2-WAY)	←140*	HOT WATER (140°)	→ RPZ →	REDUCED PRESSURE BACKFLOW PREVENTOR		
	CONTROL VALVE (3-WAY)	⊱—HWRC—-	HOT WATER RECIRCULATION PIPING (120°) (ABOVE GRADE)	(Ó)	ROOF DRAIN		
CW	COLD WATER (ABOVE GRADE)	120°	HOT WATER RECIRCULATION PIPING (120°) (BELOW GRADE)		SIDEWALL PENDENT TYPE SPRINKLER HEAD		
CW≺	COLD WATER (BELOW GRADE)	⊱—HWS—-	HOT WATER HEATING SUPPLY	⊱—SAN—→	SANITARY SEWER LINE (ABOVE GRADE)		
CW−H	COLD WATER — HARD	⊱HWR⊀	HOT WATER HEATING RETURN	SAN	SANITARY SEWER LINE (BELOW GRADE)		
— E →	EXISTING (SAN, HW, CW, ETC.)	;——IG —— ;	INTERRUPTIBLE GAS PIPING	••••	SECURITY BARS		
-1 9	FIN TUBE RADIATION	LPG	LIQUID PROPANE GAS	⊱—SMS—→	SNOW MELTING SYSTEM SUPPLY		

HVAC SYMBOLS

SYMBOL DESCRIPTION

RADIUS ROUND ELBOW (RADIUS OF CENTERLINE OF DUCT EQUAL TO 1.5 X

SUPPLY DUCT (UP)

← RL REFRIGERANT LIQUID LINE

RELIEF/EXHAUST AIR (U [POSITIVE PRESSURE]

RETURN DUCT (UP)

SUPPLY DUCT (DOWN)

RELIEF/EXHAUST AIR (UP)

[POSITIVE PRESSURE]

RETURN DUCT (DOWN)

ROUND DUCT WITH SIZE INDICATED

RELIEF/EXHAUST AIR (DOWN)

RECTANGULAR DUCT W/ACCOUSTICAL LINING SHOE TAKE-OFF (45° ANGLE INLET)

| Rectangular duct w/accoustical lining | Shoe take-off (45° Angle Inlet) |
| Spin-in take-off | Spin-in take-off

SQUARE (MITERED) ELBOW

W/TURNING VANEŚ

SQUARE TO ROUND TRANSITION, 15° MAXIMUM ANGLE

STRAIGHT LATERAL TAKEOFF (ROUND DUCT)

STRAIGHT TAP TAKE-OFF

SQUARE (MITERED) ELBOW

SYMMETRICAL DOVE TAIL WYE

TS X TEMPERATURE SENSOR TO CONTROL EQUIPMENT X

THERMOSTAT TO CONTROL EQUIPMENT X

SYMBOL DESCRIPTION

FREEZE STAT

→ G → GAS METER

MOTORIZED OPERATED DAMPER IN DUCT

RADIUS ROUND ELBOW (RADIUS OF

RECTANGULAR DUCT W/SIZE INDICATED

ACCESS DOORS, VERTICAL/HORIZONTAL

BULLHEAD TEE WITH TURNING VANES

CONNECT TO EXISTING

FIRE DAMPER IN DUCT

EXHAUST AIR OR OUTSIDE AIR (UP) [NEGATIVE PRESSURE]

FSD FIRE/SMOKE DAMPER IN DUCT

FLEXIBLE CONNECTION IN DUCT

(DOWN) [NEGATIVE PRESSURE]

EXHAUST AIR OR OUTSIDE AIR INTAKE

EXHAUST AIR OR OUTSIDE AIR INTAKE

ABBR.	DESCRIPTION	ABBR.	DESCRIPTION	ABBR.	DESCRIPTION			
AFF	ABOVE FINISHED FLOOR	FOS	FUEL OIL SUPPLY	NG	NATURAL GAS			
AFG	ABOVE FINISHED GRADE	FOR	FUEL OIL RETURN	OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED			
BWV	BACK WATER VALVE	FTR	FINNED TUBE RADIATION	ORWL	OVERFLOW RAIN WATER LEADER			
BV	BALL VALVE	GM	GAS METER	ORD	OVERFLOW ROOF DRAIN			
ВВ	BASEBOARD RADIATION	G	GAS PIPING	ОХ	OXYGEN PIPING			
BF	BUTTERFLY VALVE	GV	GATE VALVE	RWL	RAIN WATER LEADER			
CV	CHECK VALVE	GLV	GLOBE VALVE	RPZ	REDUCED PRESSURE BACKFLOW PREVENTOR			
cws	CHILLED WATER SUPPLY	HPC	HIGH PRESSURE CONDENSATE	R	GAS PRESSURE REGULATOR			
CWR	CHILLED WATER RETURN	HPS	HIGH PRESSURE STEAM SUPPLY	RD	ROOF DRAIN			
со	CLEAN OUT	Н	WALL HYDRANT	SAN	SANITARY SEWER			
CA	COMPRESSED AIR	НВ	HOSE BIBB	SMS	SNOW MELTING SYSTEM SUPPLY			
CD	CONDENSATE DRAIN	HWFU	HOT WATER FIXTURE UNITS	SMR	SNOW MELTING SYSTEM RETURN			
cs	CONDENSER WATER SUPPLY	HW	HOT WATER	SF	SQUARE FEET			
CR	CONDENSER WATER RETURN	HW-H	HOT WATER - HARD	SFU	SUPPLY FIXTURE UNITS			
CV	CONTROL VALVE	HWRC	HOT WATER RECIRCULATION	ST	STORM SEWER			
CW	COLD WATER	HWS	HOT WATER SUPPLY	TW	TEMPERED WATER			
СW-Н	COLD WATER — HARD	HWR	HOT WATER RETURN	TYP.	TYPICAL			
CWFU	COLD WATER FIXTURE UNITS	HWV	HOT WATER VALVE	DN	DOWN			
DFU	DRAINAGE FIXTURE UNITS	IE	INVERT ELEVATION	٧	VENT			
E	EXISTING (SAN, HW, CW, ETC.)	LPC	LOW PRESSURE CONDENSATE	VA	VACUUM LINE			
FFE	FINISH FLOOR ELEVATION	LPS	LOW PRESSURE STEAM SUPPLY	V TR	VENT THRU ROOF			
FL	FIRE LINE	LPG	LIQUID PROPANE GAS	wco	WALL CLEAN OUT			
FCO	FLOOR CLEAN OUT	MPC	MEDIUM PRESSURE CONDENSATE	WM	WATER METER			
FD	FLOOR DRAIN	MPS	MEDIUM PRESSURE STEAM SUPPLY	YCO	YARD CLEAN OUT			

	HVAC ABBREVI				BREVIATIONS MAY BE USED ON THIS PROJECT		
ABBR.	DESCRIPTION	ABBR.	DESCRIPTION	ABBR.	DESCRIPTION		
AFF	ABOVE FINISHED FLOOR	FFE	FINISHED FLOOR ELEVATION	OA	OUTSIDE AIR		
AFG	ABOVE FINISHED GRADE	G	GAS PIPING	OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED		
AD	ACCESS DOORS, VERTICAL/HORIZONTAL	IG	INTERRUPTIBLE GAS PIPING	PD	PRESSURE DROP		
CFH	CUBIC FEET PER HOUR	IE	INVERT ELEVATION	RL	REFRIGERANT LIQUID LINE		
CFM	CUBIC FEET PER MINUTE	LWT	LEAVING WATER TEMPERATURE	RS	REFRIGERANT SUCTION LINE		
DB/WB	DRY BULB/WET BULB	SF	SQUARE FEET	RA	RETURN AIR		
EWT	ENTERING WATER TEMPERATURE	TYP.	TYPICAL	SA	SUPPLY AIR		
EAT	ENTERING AIR TEMPERATURE	LAT	LEAVING AIR TEMPERATURE				
EA	EXHAUST AIR	LPG	LIQUID PROPANE GAS				
ESP	EXTERNAL STATIC PRESSURE	MOD	MOTORIZED OPERATED DAMPER IN DUCT				
E	EXISTING (SA, RA, EA, ETC.)	NG	NATURAL GAS				

DRAWING INDEX							
SHEET NO.	SHEET NAME						
MECHANICAL							
M001	MECHANICAL ABBREVIATIONS, SYMBOLS & DRAWING INDEX						
MH101-2	BUILDING 2 — FIRST FLOOR HVAC DEMO AND REVISED PLAN						
MH102-51	BUILDING 51 - FIRST FLOOR HVAC DEMO AND REVISED PLAN						
MH102-51	MECHANICAL DETAILS AND MECHANICAL SCHEDULES						
PLUMBING							
	BUILDING 51 - FIRST FLOOR PLUMBING DEMO AND REVISED PLAN						
PL101-51	PLUMBING SCHEDULES, PLUMBING WASTE AND VENT ISOMETRIC, AND						
	PLUMBING DOMESTIC WATER ISOMETRIC						

100 % CONSTRUCTION DOCUMENTS - FOR CONSTRUCTION



1 2 5

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UPGRADE RECEPTION
STATIONS BLDGS 2 & 51 MECHANICAL ABBREVIATIONS, SYMBOLS & DRAWING INDEX BUILDING NO

2 & 51

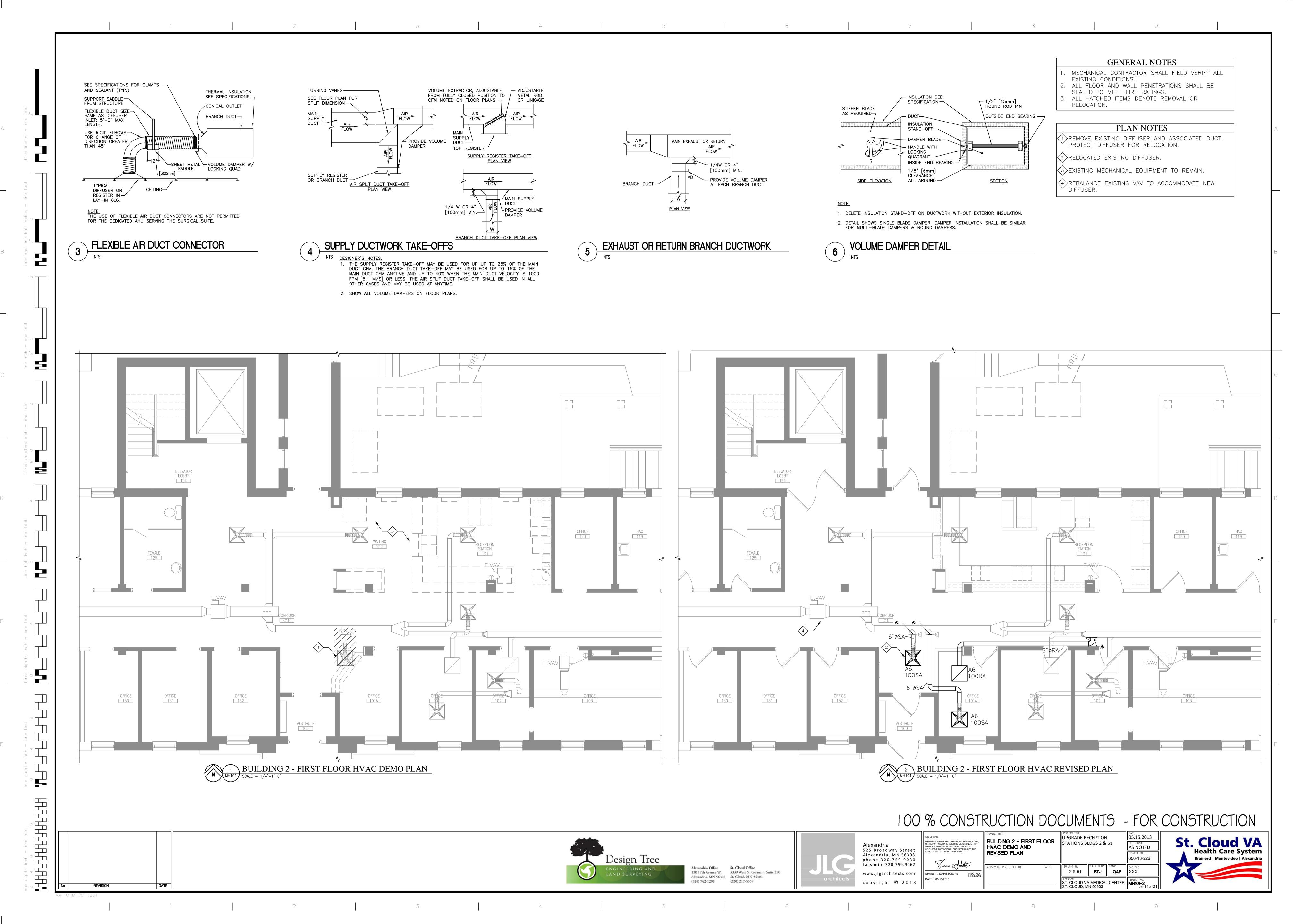
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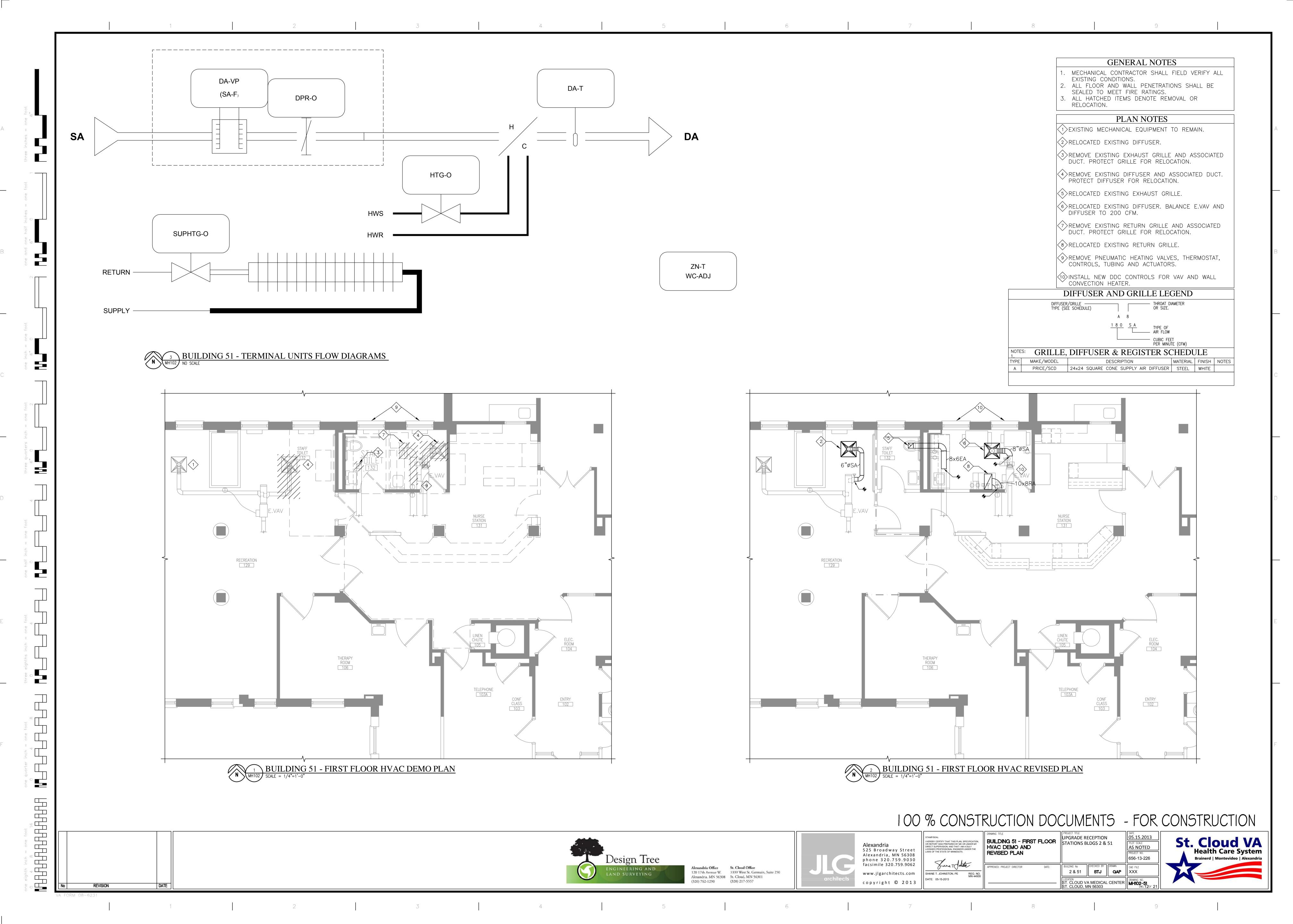
CAD FILE

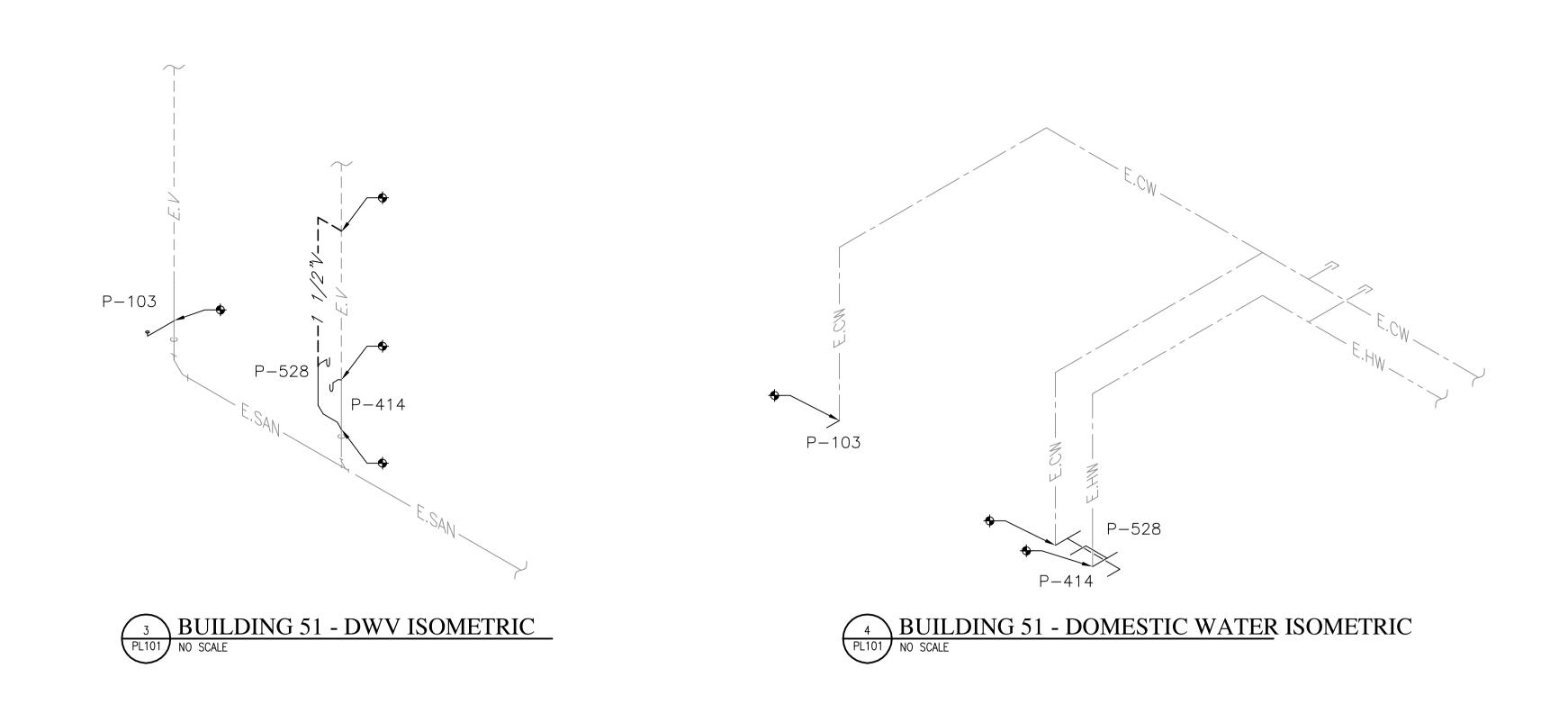
XXX LOCATION
ST. CLOUD VA MEDICAL CENTER
M001
ST. CLOUD, MN 56303

DRAWING NO.
M001
DWG.100F 2









PLUMBING FIXTURE SCHEDULE (BUILDING 51)									
P-NUMBER	DESCRIPTION	WFU	CW SFU	HW SFU	TOTAL SFU	WASTE PIPE SIZE	VENT PIPE SIZE	CW PIPE SUPPLY SIZE	HW PIPE SUPPLY SIZE
103	WATER CLOSET, FLUSH VALVE, PUBLIC	6	10	ı	10	4	2	1.25	-
414	LAVATORY	1	0.75	0.75	1	1.5	1.5	0.5	0.5
528	SINK, CRS	3	1.5	1.5	2	1.5	1.5	0.75	0.75

NOTES:

* REAGENT GRADE WATER.
 ** CHEMICAL-RESISTANT PIPE.

GENERAL NOTES

- PLUMBING CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS.
 ALL FLOOR AND WALL PENETRATIONS SHALL BE
- ALL FLOOR AND WALL PENETRATIONS SHALL BE SEALED TO MEET FIRE RATINGS.
 ALL HATCHED ITEMS DENOTE REMOVAL OR RELOCATION.

1) EXISTING PLUMBING FIXTURE TO REMAIN.

2 REMOVE EXISTING PLUMBING FIXTURE. REROUTE PIPING AS NEEDED FOR CONNECTION TO NEW PLUMBING FIXTURE. SEE 2/PL101 FOR NEW LOCATION.

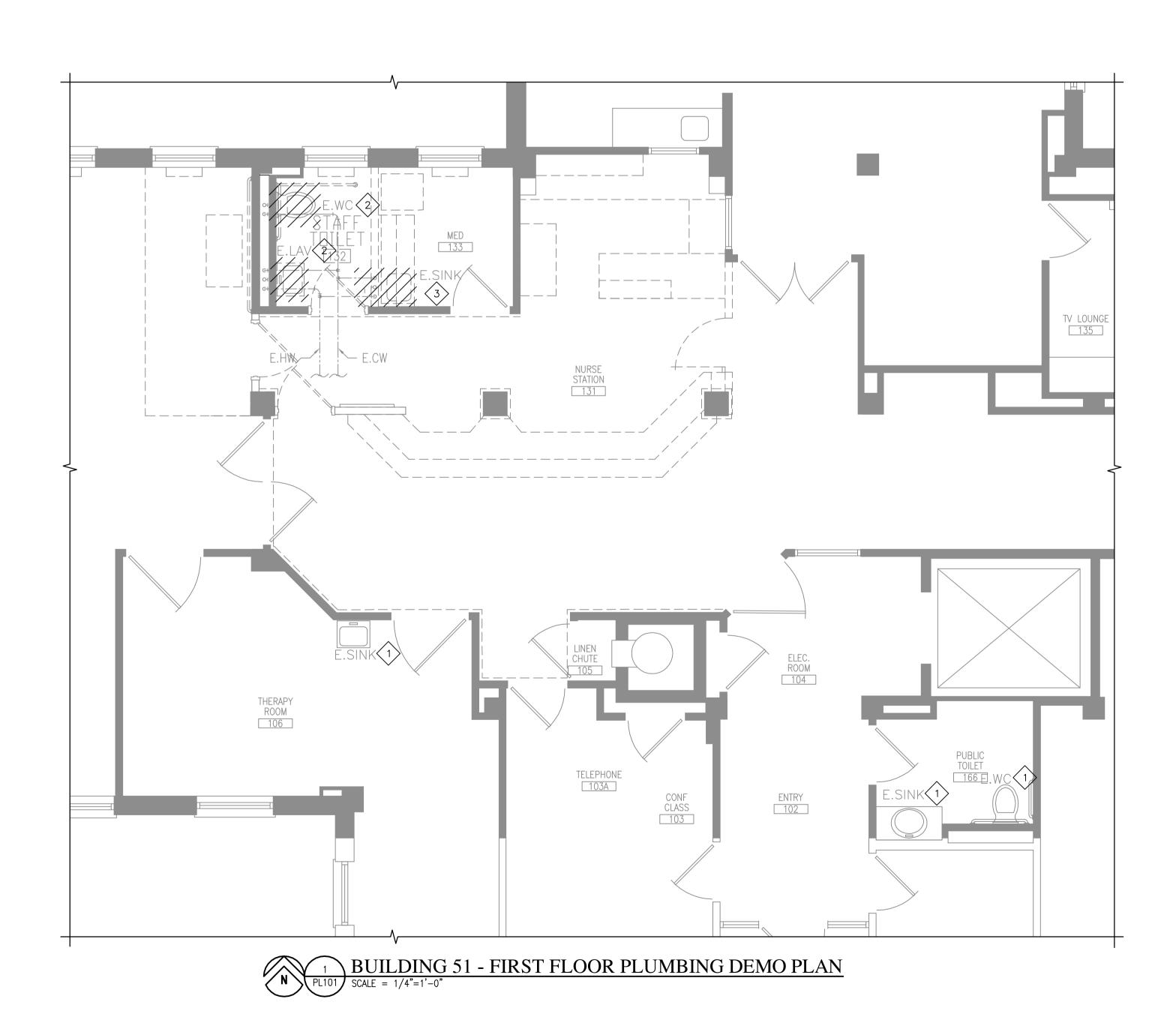
PLAN NOTES

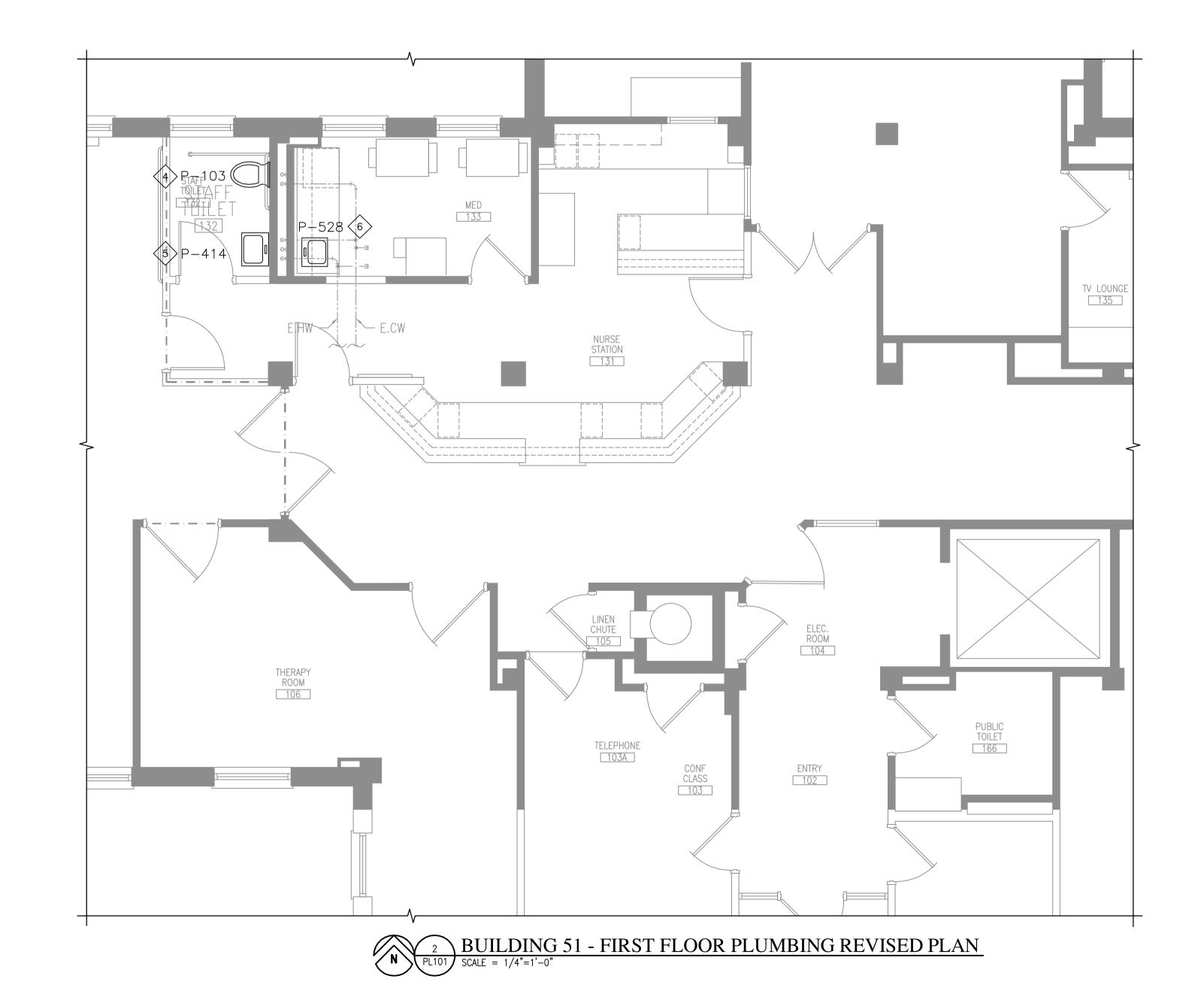
3 REMOVE EXISTING PLUMBING FIXTURE AND ASSOCIATED PIPING. PIPING SHALL BE CAPPED BEHIND WALLS AND/OR BELOW FLOOR.

CONNECT NEW PLUMBING FIXTURE TO 4"E.SAN, 2"E.V, AND 1\frac{1}{4}"E.CW.

5 CONNECT NEW PLUMBING FIXTURE TO $1\frac{1}{2}$ "E.SAN, $1\frac{1}{2}$ "E.V, $\frac{1}{2}$ "E.HW AND $\frac{1}{2}$ "E.CW.

6 CONNECT NEW PLUMBING FIXTURE TO NEAREST 12"E.SAN, 12"E.V, 3"E.HW AND 3"E.CW.





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 2
 5

 5

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STAMP/SEAL:

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SHANE T. JOHNSTON, PE REG. NO. MN 44935

DATE: 05-15-2013

TION, WY E BUILDING 51 - FIRST FLOOR PLUMBING DEMO AND REVISED PLAN

APPROVED: PROJECT DIRECTOR

APPROVED: PROJECT DIRECTOR

DATE:

UPGRADE RECEPTION
STATIONS BLDGS 2 & 51

PLOT SCALE
AS NOTED
PROJECT NO.
656-13-226

BUILDING NO
2 & 51

STJ

DRAWN
AJF

CAD FILE
XXXX

LOCATION
ST. CLOUD VA MEDICAL CENTER
ST. CLOUD, MN 56303

DRAWN
AJF

DRAWING NO.
PL101-51
DWG.130F 21

